

roller 475 when different operation screens are displayed on the left and right sides of the flexible display 475, the operation screen displayed on the unrolled side of the flexible display 475 may be displayed on the entire flexible display 473.

[0115] One of the left and right sides of the flexible display 475 may be used as a main display and may thus display a main operation screen, and the other side of the flexible display 475 may be used as a sub-display and may thus display, for example, a popup screen.

[0116] FIG. 31 illustrates a scroll-type mobile terminal, which is another type of rolling mobile terminal. Referring to FIG. 31, the scroll-type mobile terminal may include a body 501, which is formed as a cylinder or a prism, and a flexible display 503 which is rolled into a scroll on the body 501. The outer surface of the scroll of the flexible display 503 may be used as a display until the flexible display 503 is unrolled. The display region of the scroll-type mobile terminal may be expanded by unrolling the flexible display 503.

[0117] The flexible display 503 may be divided into a plurality of regions. Then, different pieces of information may be displayed in the respective regions in order of importance, or different operation screens may be displayed in the respective regions.

[0118] Alternatively, the flexible display 503 may be divided into a plurality of regions, and main objects and sub-objects may be displayed in the regions according to the degree to which the flexible display 503 is unrolled. Thereafter, if the flexible display 503 is rolled up again, the operation screen displayed before the unrolling of the flexible display 503 may be displayed again on the flexible display 503.

[0119] FIGS. 32 and 33 illustrate a double-scroll-type mobile terminal. Referring to FIG. 32, the double-scroll-type mobile terminal may include first and second bodies 511 and 513, which are formed as cylinders or prisms, and a flexible display 515 which connects the first and second bodies 511 and 513 and can be rolled up on or unrolled from the first and second bodies 511 and 513. The amount by which the flexible display 515 is rolled on the first body 511 may be the same as or different from the amount by which the flexible display 515 is rolled on the second body 513.

[0120] Referring to FIG. 33, if the flexible display 515 is unrolled when a screen is displayed on part of the flexible display 515, the screen may be scaled up accordingly. If the amount by which the flexible display 515 is rolled on the first body 511 is greater than the amount by which the flexible display 515 is rolled on the second body 513, a left part of the flexible display 515 may be used as an extension of a main screen, and a right part of the flexible display may be used as an extension of a sub-screen.

[0121] The flexible display 515 may be divided into a plurality of regions. Then, different pieces of information may be displayed in the respective regions in order of importance, or different operation screens may be automatically displayed in the respective regions.

[0122] The double-scroll-type mobile terminal may be switched from one operating mode to another operating mode according to whether the left or right side of the flexible display 515 is unrolled. For example, if the left side of the flexible display 515 is unrolled, the double-scroll-type mobile terminal may be placed in an ordinary-call mode. On the other

hand, if the right side of the flexible display 515 is unrolled, the double-scroll-type mobile terminal may be placed in a multimedia mode.

[0123] FIGS. 34, 35(a) and 35(b) illustrate a hybrid mobile terminal. Referring to FIG. 34, the hybrid mobile terminal, which is a combination of a folding mobile terminal and a rolling mobile terminal, may include a body 531 and a flexible display 533 which can be folded over the body 531 and can be rolled up on a roller 535, and may thus be able to address the problems of a mobile terminal having a flexible display into the body thereof.

[0124] Referring to FIGS. 35(a) and 35(b), the flexible display 533 can be folded over the body 531 or can be rolled up on or unrolled from the roller 535. The flexible display 533 may be completely rolled up on the roller 535 and may thus be hidden. When the flexible display 533 is incompletely rolled, the flexible display 533 can be folded over the body 531 and may thus be exposed. The display region of the hybrid mobile terminal may be expanded by unrolling the flexible display 533. In this manner, the hybrid mobile terminal can offer the benefits of both a folding mobile terminal and a rolling mobile terminal.

[0125] FIGS. 36 through 41 illustrate diagrams for explaining how to correct a set of touch parameters according to the degree to which a flexible display is bent or folded. Referring to FIGS. 36 and 37, a flexible display 610 may be attached to the rear of a touch screen 600, thereby realizing a flexible display module capable of processing a touch input. In this case, the flexible display module may be able to determine the coordinates of a touched point 615 on the touch screen 600 and the coordinates of each point 620 neighboring the touched point 615 based on variations in the pressure at and near the touched point 615.

[0126] When the flexible display module is bent or folded, the touch sensitivity of the flexible display module and the coordinates of the touched point 615 may change. Thus, there is need to compensate for such changes, i.e., correct a set of touch parameters including the location of the touched point 615 and the pressure at or near the touched point 615.

[0127] For example, FIGS. 39(a) and 39(b), if the flexible display module is bent horizontally so that a central part of the flexible display module can be recessed, the touch sensitivity at or near the upper and lower ends of the flexible display module may increase, whereas the touch sensitivity at or near the left and right ends of the flexible display module almost does not change. In this case, it is necessary to correct the touch parameters and thus to reduce the touch sensitivity at or near the left and right ends of the flexible display module.

[0128] Referring to FIGS. 40(a) and 40(b), if the flexible display module is deformed such that a central part of the flexible display module can protrude, the touch sensitivity at the central part of the flexible display module may decrease. In this case, it is necessary to correct the touch parameters and thus to increase the touch sensitivity at the center of the flexible display module.

[0129] Referring to FIGS. 41(a) and 41(b), if the flexible display module is deformed such that the central part of the flexible display module can be recessed, the touch sensitivity at the central part of the flexible display module may increase. In this case, it is necessary to correct the touch parameters and thus to reduce the touch sensitivity at the center of the flexible display module.

[0130] In short, it is necessary to adjust the touch sensitivity of the flexible display module according to whether the flex-